

A VERTICALLY ALIGNED LIQUID CRYSTAL DISPLAY DEVICE HAVING AN OPTIMIZED VIEWING ANGLE

ABSTRACT

5 A method of improving the viewing angle of a vertically-aligned liquid crystal display device is presented. The method involves designing a uniaxial compensation film to provide a retardation value of 200 nm or less for light having a wavelength of about 550 nm. Using this uniaxial compensation film, a display device can be built by obtaining a liquid crystal panel with liquid crystal molecules contained between glass
10 substrates, coupling the uniaxial compensation film to at least one of the glass substrates, and coupling a polarization film and electrodes to the compensation film. Preferably, the uniaxial compensation film has a thickness less than or equal to 50 microns. Where there are multiple compensation films, the total thickness and the total
15 retardation values should be considered.

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